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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,416	11/16/2001	Martin Thomas Miller	455610-2420	8540

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EXAMINER	
WEST, JEFFREY R	

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/988,416	MILLER ET AL.	
	Examiner	Art Unit	
	Jeffrey R. West	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-6,11,13,23-27,32 and 43-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-6,11,13,23-27,32 and 43-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Objections

2. Claims 3, 24, 43-47 and 49 are objected to because of the following informalities:

In claim 3, line 2, to avoid problems of antecedent basis, "said processing elements" should be ---said plurality of processing elements---.

In claim 24, line 2, to avoid problems of antecedent basis, "said processing elements" should be ---said plurality of processing elements---.

In claim 43, line 4, to avoid problems of antecedent basis, "said received parameters" should be ---said received one or more input parameters---.

In claim 44, line 2, to avoid problems of antecedent basis, "the one" should be ---the at least one---.

In claim 44, line 2, to avoid problems of antecedent basis, "requesting data" should be ---requesting required data---.

In claim 45, line 4, to avoid problems of antecedent basis, "said processing elements" should be ---said plurality of processing elements---.

In claim 46, line 2, to avoid problems of antecedent basis, "the one" should be --- the at least one---.

In claim 46, line 2, to avoid problems of antecedent basis, "requesting data" should be ---requesting required data---.

In claim 47, line 4, to avoid problems of antecedent basis, "said processing elements" should be ---said plurality of processing elements---.

In claim 49, line 2, to avoid problems of antecedent basis, "the one" should be --- the at least one---.

In claim 49, line 2, to avoid problems of antecedent basis, "requesting data" should be ---requesting required data---.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 2-6, 11, 23-27, 32, and 43-49 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,809,189 to Baston.

With respect to claim 43, Baston discloses a method for configuring and performing processing in a digital oscilloscope processing apparatus (column 2, lines 13-14), comprising the steps of receiving one or more input parameters (column 4, line 56 to column 5, line 8 and column 19, lines 16-33), defining a plurality of processing elements based upon said received parameters (column 18, line 53 to column 19, line 33, column 19, lines 38-68 and column 20, lines 43-48) and connecting said plurality processing elements to define a processing web (column 4, lines 14-56 and Figure 1), wherein at least one of said plurality of processing elements requests required data from an upstream source (i.e. the display controller requests data from waveform memory "16" through memory management unit "14") (column 5, lines 9-29 and Figure 1).

With respect to claim 45, Baston discloses a processing web defining processing in a digital oscilloscope processing apparatus (column 2, lines 13-14), comprising a plurality of processing elements that are defined based upon one or more received input parameters (column 18, line 53 to column 19, line 33, column 19, lines 38-68 and column 20, lines 43-48), each of said processing elements performing a discrete processing function (column 19, lines 16-33 and 47-68), and a plurality of connections between said plurality of processing elements to define a flow of information therebetween (column 4, lines 14-56 and Figure 1), wherein at least one of said plurality of processing elements requests required data from an upstream source (i.e. the display controller requests data from waveform memory "16" through memory management unit "14") (column 5, lines 9-29 and Figure 1).

With respect to claim 47, Baston discloses a processing web defining processing in a digital processing apparatus (column 2, lines 13-14), comprising a plurality of processing elements that are defined based upon one or more received input parameters (column 18, line 53 to column 19, line 33, column 19, lines 38-68 and column 20, lines 43-48), each of said processing elements performing a discrete processing function (column 19, lines 16-33 and 47-68), and a plurality of connections between said plurality of processing elements to define a flow of information therebetween (column 4, lines 14-56 and Figure 1), wherein at least one of said plurality of processing elements requests required data from an upstream source (i.e. the display controller requests data from waveform memory "16" through memory management unit "14") (column 5, lines 9-29 and Figure 1).

With respect to claims 2 and 23, Baston discloses that at least two of said plurality of processing elements are updated at different speeds (column 20, lines 12-30).

With respect to claims 3 and 24, Baston discloses that a processing object controls the update of said at least two of said processing elements (column 20, lines 12-30).

With respect to claims 4 and 25, Baston discloses that one of said at least two of said plurality of processing elements operates at an acquisition speed and another of said at least two of said plurality of processing elements operates at a display speed, and wherein the acquisition speed is higher than the display speed (column 20, lines 12-30).

With respect to claims 5 and 26, Baston discloses that said at least two of said plurality of processing elements are idle when not updated (i.e. idle until an corresponding input changes) (column 20, lines 12-30).

With respect to claims 6 and 27, Baston discloses that one of said at least two of said plurality of processing elements is of a cumulative type running at a first speed (column 19, lines 27-33), and another of said at least two of said plurality of processing elements is of a non-cumulative type running at a second speed (column 19, lines 53-60), and wherein the first speed is higher than the second speed (column 20, lines 12-30).

With respect to claims 11, 32 and 48, Baston discloses that one of said plurality of processing elements requests data from an upstream source when data is requested from it by a downstream processing element (i.e. the display controller requests data from waveform memory "16" through memory management unit "14") (column 5, lines 9-29 and Figure 1).

With respect to claims 44, 46, and 49, Baston discloses that the upstream source transmits requested data to the one of the plurality of processing elements requesting data therefrom (i.e. display controller) without an intervening buffer (column 5, lines 9-29 and Figure 1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Batson in view of U.S. Patent No. 5,736,971 to Shirai.

As noted above, Batson teaches many of the features of the claimed invention, and while the invention of Batson does disclose updating processing elements based upon a request with at least one processing element, such as the display controller, receiving at least one input and producing at least zero outputs, Batson does not explicitly describe the use of pins.

Shirai teaches a method and apparatus for increasing resolution of a computer graphics display including a display controller for connection to a CRT (column 5, lines 12-15) that receives data inputs through at least one input pin (i.e. pin connector CN1) (column 5, lines 34-45), produces outputs through at least one output pin (i.e. pin connectors CN2-CN4) (column 5, lines 4-6), and receives controlling instructions through a processor at a pin (i.e. pin connector CN1) (column 4, lines 43-49).

It would have been obvious to one having ordinary skill in the art to modify the invention of Batson to include specifying that the processing element uses pins, as taught by Shirai, because the invention of Batson does teachs the application of the processing device that receives data, outputs data, and receives controller signals from a processor for update indications, but does not give the specifics as to how the

data is received (i.e. through pins), and Shirai suggests a corresponding well-known structure applicable to carry out the invention of Batson that further allows synchronizing adjustments to improve processing (column 2, lines 45-50).

Response to Arguments

7. Applicant's arguments with respect to claims 2-6, 11, 13, 23-27, 32, and 43-49 have been considered but are moot in view of the new ground(s) of rejection.

The following arguments, however, are noted:

Applicant argues:

> By this amendment, new independent claims 43, 45 and 47 are presented. These new independent claims are similar to original method claim 1 and original apparatus claims 22 and 28, but claims 43, 45 and 47 include the recitations previously recited by claims 9 and 30, namely, "at least one of said plurality of processing elements requests required data from an upstream source." This recitation had been included in original claims 9 and 30; and notwithstanding the Examiner's consistent rejection of claims 9 and 30, there has been no explanation of where, in any of the references applied against these claims, there is a teaching that a processing element requests required data from an upstream source. It is respectfully submitted that this limitation, by itself, is sufficient to distinguish independent claims 43, 45 and 47 (as well as all of the dependent claims) from the cited prior art.

The Examiner asserts that, while the arguments are considered to be moot in view of the new ground of rejection, original claims 9 and 30 specified "wherein one of the plurality of processing elements requests required data from an upstream source" and the Office Action of May 02, 2006, for example, indicated "Batson discloses that said updating one or more of said plurality of processing elements is performed in response to a downstream request for data (i.e. the display controller

requests data from waveform memory "16" through memory management unit "14") (column 5, lines 9-29 and Figure 1)."

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

U.S. Patent No. 6,570, 592 to Sajdak et al. teaches a system and method for specifying trigger condition of a signal measurement system using graphical elements on a graphical user interface.

U.S. Patent No. 5,953,009 to Alexander teaches a graphical system and method for invoking measurements in a signal measurement system.

National Instruments, "Computer-Based Instruments: NI 5911 User Manual Digital Oscilloscope for PCI", teaches a digital oscilloscope programmed by means of graphical representatives of processing elements.

National Instruments, "NI-SCOPE Instrument Driver Quick Reference Guide: Easy Programming for National Instruments Oscilloscopes", teaches graphical representatives of processing elements for use in programming a digital oscilloscope.

U.S. Patent No. 5,301,336 to Kodosky discloses a method for configuring and performing processing in an instrument comprising the steps of receiving one or more input signals by the instrument (column 9, lines 44-47, column 10, lines 54-59 and column 15, lines 4-20), receiving one or more input parameters by the

instrument (column 32, lines 47-50), defining a set of instructions input by a user to be associated with one or more processing elements of the instrument, based upon said one or more input parameters (column 9, lines 58-64 and column 32, line 48 to column 33, line 16), to enable said processing elements to carry out said instructions and perform processing on the received input signals within the instrument upon application of the associated processing element (column 33, line 66 to column 34, line 13), assigning a graphical representative for each said processing element (column 32, lines 5-7 and column 33, lines 19-25), coupling one or more of the received input signals to one or more processing element graphical representatives (column 31, lines 13-18 and column 34, lines 2-13), and connecting respective ones of said processing element graphical representatives to define and graphically depict a processing web for performing corresponding processing on said one or more received input signals within said instrument (column 34, lines 1-16 and Figure 74).

U.S. Patent No. 5,920,479 to Sojoodi et al. discloses a method for configuring and performing processing in a digital oscilloscope (column 1, lines 60-67) comprising the steps of receiving one or more input signals by the digital oscilloscope (column 3, lines 10-21 and column 13, lines 51-67), receiving one or more input parameters by the digital oscilloscope (column 19, lines 48-59), selecting a set of instructions by a user (column 15, lines 11-15, column 17, lines 30-54, and column 25, lines 46-56) to be associated with one or more processing elements of the digital oscilloscope, based upon said one or more input parameters, to enable said processing elements to carry out said instructions and perform processing on

the received input signals within the digital oscilloscope upon application of the associated processing element (column 10, lines 59-64), assigning a graphical representative for each said processing element (column 13, lines 51-67), coupling one or more of the received input signals to one or more processing element graphical representatives (column 13, lines 51-67), and connecting respective ones of said processing element graphical representatives to define and graphically depict a processing web for performing corresponding processing on said one or more received input signals within said digital oscilloscope (column 17, line 55 to column 18, line 32).

U.S. Patent No. 5,668,469 to Natori et al. teaches a digital oscilloscope using a color plane display device and data display method comprising a plurality of processing elements, including acquisition devices and display devices, (Figure 1), wherein the data read out of a display memory using a display controller is in synchronization with the other processing elements (abstract and column 4, line 42 to column 5, line 14).

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (571)272-2226. The examiner can normally be reached on Monday through Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey R. West
Examiner – AU 2857

November 26, 2006